

What is claimed is:

1. An eyepiece optical system comprising:

a first lens unit; and

a second lens unit,

the first lens unit and the second lens unit being arranged in this order from an intermediate-image side toward a pupil side,

wherein the first lens unit includes a negative lens, the negative lens being located at a position closest to an intermediate image, and the second lens unit includes a path-bending optical member and has positive power as a whole, satisfying the following condition:

$$-20 < sf1 < 0$$

where $sf1$ is a shaping factor of the negative lens and is expressed as $(r11 + r12) / (r11 - r12)$, where $r11$ is a radius of curvature of an intermediate-image-side surface of the negative lens and $r12$ is a radius of curvature of a pupil-side surface of the negative lens.

2. An eyepiece optical system according to claim 1, further satisfying the following condition:

$$0.1 < fe / le < 1$$

where fe is a focal length of a whole of the eyepiece optical system and le is an eye relief of the eyepiece optical system.

3. An eyepiece optical system according to claim 1, wherein the first lens unit has a diopter adjusting optical system, the diopter adjusting optical system including at least one lens moved along an optical axis for diopter adjustment, satisfying the following condition:

$$0.1 < |pd / pe| < 0.7$$

where p_d is a power of the diopter adjusting optical system and p_e is a power of a whole of the eyepiece optical system.

4. An eyepiece optical system according to claim 1, wherein the first lens unit is provided with a second lens from the intermediate image, the second lens having positive power.

5. An eyepiece optical system according to claim 4, satisfying the following condition:

$$0 < sf2 < 20$$

5 where $sf2$ is a shaping factor of the second lens from the intermediate image and is expressed as $(r_{21} + r_{22}) / (r_{21} - r_{22})$, where r_{21} is a radius of curvature of the intermediate-image-side surface of the second lens from the intermediate image and r_{22} is a radius of curvature of the pupil-side surface of the second lens from the intermediate image.

6. An eyepiece optical system according to claim 4, wherein the first lens unit is provided with a diopter adjusting optical system, the diopter adjusting optical system having the negative lens and the second lens from the intermediate image.

7. An eyepiece optical system according to claim 6, wherein the negative lens and the second lens is configured as a cemented lens.

8. An eyepiece optical system according to claim 4, wherein the second lens has a diffraction surface on the pupil side.

9. An eyepiece optical system according to claim 1, further comprising two reflecting surfaces.

10. A real image mode finder optical system having an eyepiece optical system, the eyepiece optical system comprising:

a first lens unit; and

a second lens unit,

5 the first lens unit and the second lens unit being arranged in this order from an intermediate-image side toward a pupil side,

wherein the first lens unit includes a negative lens, the negative lens being located at a position closest to an intermediate image, and the second lens unit includes a path-bending optical member and has positive power as a whole, satisfying the following condition:

$$-20 < sf1 < 0$$

where $sf1$ is a shaping factor of the negative lens and is expressed as $(r11 + r12) / (r11 - r12)$, where $r11$ is a radius of curvature of an intermediate-image-side surface of the negative lens and $r12$ is a radius of curvature of a pupil-side surface of the negative lens, and

15 wherein the real image mode finder optical system satisfies the following condition:

$$6 < le / ch < 10$$

where le is an eye relief of the eyepiece optical system and ch is a height of the intermediate image.

11. A real image mode finder optical system comprising:

an objective optical system forming an intermediate image; and

an eyepiece optical system comprising:

a first lens unit; and

5 a second lens unit,

the first lens unit and the second lens unit being arranged in this order from an intermediate-image side toward a pupil side,

wherein the first lens unit includes a negative lens, the negative lens being located at a position closest to the intermediate image, and the second lens unit includes a path-bending optical member and has positive power as a whole, satisfying the following condition:

$$-20 < sf1 < 0$$

where sf1 is a shaping factor of the negative lens and is expressed as $(r11 + r12) / (r11 - r12)$, where r11 is a radius of curvature of an intermediate-image-side surface of the negative lens and r12 is a radius of curvature of a pupil-side surface of the negative lens,

wherein the objective optical system has a positive power lens, the positive power lens being located at a position closest to the intermediate.

12. A real image mode finder optical system according to claim 11, wherein the objective optical system comprises:

a first lens unit with negative power, the first lens unit having a single reflecting surface,

a second lens unit with positive power, the second lens unit being moved to change a magnification, and

a last lens unit located at a position closest to the intermediate image, the last lens unit having positive power and a single reflecting surface.

13. A real image mode finder optical system according to claim 11, wherein the objective optical system is used as a photographing optical system, and the real image mode finder optical system is a TTL finder optical system for observing a real image of an object formed through the objective optical system and satisfies the following condition:

$$0.5 \text{ mm} < ch < 2.6 \text{ mm}$$

where ch is a height of the intermediate image.

14. An imaging device including a real image mode finder optical system, the real image mode finder optical system having an eyepiece optical system, the eyepiece optical system comprising:

a first lens unit; and

5 a second lens unit,

the first lens unit and the second lens unit being arranged in this order from an intermediate-image side toward a pupil side,

wherein the first lens unit includes a negative lens, the negative lens being located at a position closest to an intermediate image, and the second lens unit includes a path-bending optical member and has positive power as a whole, satisfying the following condition:

$$-20 < sf1 < 0$$

where $sf1$ is a shaping factor of the negative lens and is expressed as $(r11 + r12) / (r11 - r12)$, where $r11$ is a radius of curvature of an intermediate-image-side surface of the negative lens and $r12$ is a radius of curvature of a pupil-side surface of the negative lens, and

wherein the real image mode finder optical system satisfies the following condition:

$$6 < le / ch < 10$$

20 where le is an eye relief of the eyepiece optical system and ch is a height of the intermediate image.

15. An imaging device including a real image mode finder optical system, the real image mode finder optical system comprising:

an objective optical system forming an intermediate image; and

an eyepiece optical system comprising:

5 a first lens unit; and

a second lens unit,

the first lens unit and the second lens unit being arranged in this order from an intermediate-image side toward a pupil side,

10 wherein the first lens unit includes a negative lens, the negative lens being located at a position closest to the intermediate image, and the second lens unit includes a path-bending optical member and has positive power as a whole, satisfying the following condition:

$$-20 < \text{sf1} < 0$$

15 where sf1 is a shaping factor of the negative lens and is expressed as $(r11 + r12) / (r11 - r12)$, where r11 is a radius of curvature of an intermediate-image-side surface of the negative lens and r12 is a radius of curvature of a pupil-side surface of the negative lens,

wherein the objective optical system has a positive power lens, the positive power lens being located at a position closest to the intermediate.